SCIENCE & EDUCATION Impact

Benefits from USDA/Land-Grant Partnership

Putting Profits First

Improved tools and techniques help keep farmers out of the red.

For many farmers, profits are hard to come by these days. Global surpluses, a weak Southeast Asian economy and competition have kept prices down for many crops. And, though on the rebound, livestock prices still have a way to go. From the largest to the smallest, farms are feeling the squeeze on the bottom line. The U. S. Department of Agriculture (USDA) and Land-Grant universities continue to search for ways to increase profit, whether by improving quality, finding better ways to deal with old problems or trimming production costs. A small improvement here, a big one there—all contribute to help farmers survive.

Payoff

- **High tech rescues cotton.** Two high-tech tools developed by **Arizona** researchers continue to help Arizona cotton growers save money and reduce the amount of pesticides in the environment. A combination of insect growth regulators and transgenic cotton cut the number of pesticide applications by as many as nine, for an average savings of $79 an acre.

- **It's in the water.** Information about center pivot irrigation provided by **Delaware** Extension led a hay grower to install three center pivot systems. The grower's gross income increased by $189,000 in 1998, the first growing season with the new irrigation in place.

- **Cooperative alternatives.** In Mississippi, prices for crops and livestock are on the decline. **Alcorn State** researchers and extension specialists are helping small farmers form cooperatives to improve their income. In 1999 Bolivar County farmers planted 575 bushels of sweet potatoes and increased their income more than $1 million. The sweet potatoes sold for $12 a bushel. One farmer started a crate manufacturing facility that employs six people. A group of 400 Mississippi farmers also formed the Southern States Meat Goat Marketing Cooperative, and weekly they market 600 goats to outlets in the northeast.

- **Sowing seeds for profit.** Corn yields improved 10-14 bushels an acre in Hickman County after **Kentucky** Extension taught growers to adjust their corn planters for

RESEARCH, EXTENSION AND EDUCATION AT WORK

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improved seeding rates. As a result, gross income jumped $957,000 for farmers in this western Kentucky county.

- **Scab on the run.** Low-cost sprayer modifications developed by **North Dakota State** researchers are helping wheat and barley growers cut losses caused by fusarium head blight, more commonly called scab. The improved sprayers provide 50 percent better coverage and reduce scab 50 to 85 percent. Growers' net profit increased $15-$16 an acre on about 700,000 acres.

- **Time to get your shots, Bossy.** Mastitis, a bacterial infection that strikes cows, costs the U.S. dairy industry $2 billion a year. **University of California-Davis** veterinary scientists developed a vaccine that prevents mastitis. The vaccine, known as J-5, already saves the California dairy industry $11 million a year. That's about $42 per cow, or roughly 25 percent of a producer's profit margin. In **Vermont,** researchers are developing ways to boost a cow's natural resistance to mastitis by enhancing its ability to produce antibacterial proteins.

- **Sweet thoughts for new weed spray.** Sugar beet growers in **North Dakota** are reaping the benefits of a weed control spray that combines herbicide with seed oil. A **North Dakota State** researcher developed the spray, which can be applied at rates 66 to 77 percent lower than currently recommended. More than 90 percent of the growers in **North Dakota** and **Minnesota** used the new formula in 1999, saving about $30 an acre, or $19 million on 700,000 acres of sugar beets.

- **Watching the water flow.** Scientists at **North Carolina State** developed a controlled drainage system to reduce the amount of nutrients that flow from farm fields into lakes and rivers. The system increases crop yields and cuts water pollution. Thanks to **North Carolina** Extension programs, controlled drainage is now used on 600,000 acres. One result: increased corn and soybean yields have added $5 million annually to the state's gross agricultural income.

- **Don't spray those weeds-eat them.** To eliminate Sericea lespedeza, a weed that has invaded pastures in **Oklahoma** and **Kansas**, farmers have turned to a decidedly low-tech tool, the goat. Demonstrations by **Langston University** in Oklahoma showed that goats eat the weed while leaving the grass for cattle. Goat grazing killed the perennial weed after three years. Herbicide cost savings come to $15 an acre; sales of goat meat bring another $50 an acre. In **California,** weeds in alfalfa lower hay quality and can cause off flavors in milk. Scientists found that sheep are efficient weed eaters in Imperial Valley alfalfa fields. Growers save $40 an acre in herbicide applications and $35 in harvesting costs. Plus, they collect a grazing fee of $34 acre.

- **Keeping cool pays off.** Improved ventilation techniques developed by **Utah State** Extension reduced turkey production costs by 10 cents a pound. For one producer this amounted to an increase of $40,000 in gross income.

- **Tastes great and less filling.** Creatine, a protein in humans and animals, may give us leaner, healthier pork that is still juicy and tender. **Missouri** researchers fed creatine to hogs nearing slaughter weight. The result: higher value, tender, juicy pork chops and hams that add $1,400 to the income of the average Missouri hog producer.

- **Here's the beef.** The 3,000 participants in **Nebraska's** Beef Quality Assurance Program use proven management practices and science-based production techniques to improve beef quality. In 1999, 52,000 BQA-certified cattle received a premium of $16 a head, or $832,000 in added value. Similar Extension programs are conducted by **West Virginia, Virginia Tech, Arkansas, North Carolina State, Ohio State, Montana** and **Wyoming.**

Cooperative State Research, Education, and Extension Service
United States Department of Agriculture

Cooperative State Research, Education, and Extension Service in cooperation with the Extension Committee on Organization and Policy, the Experiment Station Committee on Organization and Policy, the Academic Programs Committee on Organization and Policy, the International Programs Committee on Organization and Policy, and the Louisiana State University Agricultural Center.

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